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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/627,922 | 07/28/2003 | Larry D. Benjamin | 070386-0303769 | 3610 |
| 909 | 7590 | 10/21/2004 | EXAMINER | |
| PILLSBURY WINTHROP, LLP | | | GONZALEZ, MADELINE | |
| P.O. BOX 10500 | | | ART UNIT | |
| MCLEAN, VA 22102 | | | PAPER NUMBER | |
| | | | 2859 | |

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/627,922 | Applicant(s) BENJAMIN, LARRY D. | |
| | Examiner Madeline Gonzalez | Art Unit 2859 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 24-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 24-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

In response to applicant's amendment dated August 5, 2004

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 contains the trademark/trade name Lexan ®. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a plastic material and, accordingly, the identification/description is indefinite.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6, 8-18, 22 and 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaufman (U.S. 4,595,300) in view of Nimberger et al. (U.S. 6,352,361) [hereinafter Nimberger].

Kaufman discloses a temperature probe 24, as shown in Fig. 1, having:

- an elongated tubular shaft having a hollow interior;
- a heat conducting structure;
- a thermocouple coupled to said heat conducting structure and extending into the hollow interior of said elongated shaft;
- a control device 29 electrically communicated to said thermocouple and operable to determine a temperature from said thermocouple;
- a lifting mechanism including wheels 20, 21, cable 26, reel 27, transducer 28 and stepping motor 25, coupled to the elongated tubular shaft and the control device 29 that moves the heat conducting structure between a raised position and a lowered position;

Art Unit: 2859

- wherein when said heat conducting structure is disposed within a mass of packed product said heat conducting structure transmits thermal energy from the mass to said thermocouple;
- wherein said tubular shaft has a circular transverse cross-section;
- wherein said heat conducting structure forms a pointed tip on a free end of said probe 24 capable of penetrate a tobacco product mass when said probe 24 is inserted therein;
- wherein said heat conducting structure has a conical tip on the end of said probe;
- wherein said heat conducting structure acts as a thermal choke;
- wherein said thermocouple is couple to said heat conducting structure substantially in a region of maximum heating of said thermal choke;
- wherein said control device 29 is a programmable logic control device; and
- the method steps of providing the temperature probe 24, inserting the probe 24 into a mass so that the heat conducting structure is disposed in thermal communication with the product on the interior of the mass, and determining the internal temperature of the mass based on information from the probe 24.

Kaufman lacks the specific type of probe having an insulating structure and a support structure, the specific material of the heat conducting structure, the specific material of the shaft, the specific material of the insulating structure, the method steps of determining the temperature of the heat conducting structure, comparing the temperature of the heat conducting structure to a predetermined temperature range to determine if the

Art Unit: 2859

temperature of the heat conducting structure is within the predetermined range, changing the temperature of the heat conducting structure if the temperature of the heat conducting structure is outside of the predetermined range so that the temperature of the heat conducting structure is within the predetermined temperature range, the specific time the heat conducting structure contacts the material to be measured, and thermally isolating the heat conducting structure from the tubular shaft.

With respect to the specific type of probe having an insulating structure and a support structure and the method step of thermally isolating the heat conducting structure from the tubular shaft: Nimberger discloses a temperature sensing device, as shown in Fig. 6, having an elongated tubular shaft 62D having a hollow interior, an insulating structure 70D mounted on said elongated shaft 62D, a heat conducting structure 36D couple to said insulating structure 70D, and a thermocouple 28D couple to said heat conducting structure 36D and extending into the hollow interior of said elongated shaft 62D. The heat conducting structure 36D is thermally isolated from the shaft 62D. The heat conducting structure 36D and the shaft 62D are constructed of a metallic material. A support structure 96F, as shown in Fig. 9, is mounted within the hollow interior of said shaft 62D that supports a portion of said thermocouple 28D, 93F within said interior. The insulating structure 70D is mounted on an end of said tubular shaft 62D, said insulating structure 70D is pervious to radiant heat energy, is constructed of a plastic material, and is thermally stable. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the probe 24 disclosed by Kaufman with the arrangement taught by Nimberger, i.e., with an insulating

Art Unit: 2859

structure isolating the heat conducting structure from the shaft and a support structure to support the thermocouple, in order to obtain more accurate temperature measurements.

With respect to the specific material of the heat conducting structure, the specific material of the shaft, and the specific material of the insulating structure: Kaufman as modified by Nimberger disclosed a device having a heat conducting structure made of a metallic material, a shaft made of a metallic material, and an insulating structure made of a plastic material. The particular type of material used to make the heat conducting structure, the shaft, and the insulating structure, i.e., brass, platinum, gold, stainless steel, mild steel, and polycarbonate, are only considered to be the use of a “ preferred ” or “ optimum ” material out of a plurality of well known materials that a person having ordinary skill in the art at the time the invention was made would have find obvious to provide using routine experimentation based, among other things, on the intended use of Applicant’s apparatus, i.e., suitability for the intended use of Applicant’s apparatus. See *In re Leshin*, 125 USPQ 416 (CCPA 1960) where the court stated that a selection of a material on the basis of suitability for intended use of an apparatus would be entirely obvious. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a brass, platinum, gold, stainless steel, and mild steel material to make the heat conducting structure and the shaft disclosed by Nimberger since these material are well-known metallic, thermally conductive materials. Furthermore, it would have been obvious to use polycarbonate as the plastic material to make the insulating structure disclosed by Kaufman as modified by Nimberger since these materials are well-known types of plastics.

With respect to the method steps of determining the temperature of the heat conducting structure, comparing the temperature of the heat conducting structure to a predetermined temperature range to determine if the temperature of the heat conducting structure is within the predetermined range, and changing the temperature of the heat conducting structure if the temperature of the heat conducting structure is outside of the predetermined range so that the temperature of the heat conducting structure is within the predetermined temperature range: Kaufman as modified by Nimberger disclosed the method steps of providing a temperature probe, inserting the probe into a mass so that the heat conducting structure is disposed in thermal communication with the product on the interior of the mass, and determining the internal temperature of the mass based on information from the probe. The method steps claimed by applicant are steps to calibrate the temperature probe and it is well known in the art to calibrate temperature measuring devices prior to perform a measurement. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to calibrate the temperature probe disclosed by Kaufman as modified by Nimberger before using it in order to obtain an accurate measurement.

With respect to the specific time the heat conducting structure contacts the material to be measured: Kaufman as modified by Nimberger disclosed a device having a heat conducting structure contacting a material to be measured. The specific time claimed by applicant, i.e., a time of 20 to 90 second and a time of less than two minutes as the time the heat conducting structure contacts the material to be measure, will depend on stabilizing time of the thermocouple. Therefore, it would have been obvious to a

Art Unit: 2859

person having ordinary skill in the art at the time the invention was made to use a thermocouple with a stabilization time of 20 to 90 seconds or less than two minutes in order to obtain a fast measurement.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaufman (U.S. 4,595,300) in view of Nimberger (U.S. 6,352,361) as applied to claims 1-6, 8-18, 22 and 25-30 above, and further in view of Benzinger (U.S. 4,191,197).

Kaufman as modified by Nimberger disclosed all the subject matter claimed above in paragraph 3 with the exception of the specific type of support structure.

With respect to the specific type of support structure: Benzinger discloses a thermometer, as shown in Fig. 1, having a cotton plug 11 supporting a probe tube 14. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the support structure 96F of the device disclosed by Kaufman as modified by Nimberger with a cotton material as taught by Benzinger in order to support the thermocouple and absorb humidity surrounding the thermocouple.

6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaufman (U.S. 4,595,300) in view of Nimberger (U.S. 6,352,361) as applied to claims 1-6, 8-18, 22 and 25-30 above, and further in view of Wu et al. (U.S. 6,712,996) [hereinafter Wu].

Art Unit: 2859

Kaufman as modified by Nimberger disclosed all the subject matter claimed above in paragraph 3 with the exception of a type T thermocouple.

With respect to the type T thermocouple: Wu discloses a temperature indicator and teaches that type T thermocouples are commonly used to measured temperatures below 0 degree Celsius and typically have a range of -200 degrees Celsius to about 350 degrees Celsius. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the thermocouple used by Kaufman as modified by Nimberger with a type T thermocouple as taught by Wu in order measure temperature within a range of -200 degrees Celsius to about 350 degrees Celsius.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaufman (U.S. 4,595,300) in view of Nimberger (U.S. 6,352,361) as applied to claims 1-6, 8-18, 22 and 25-30 above, and further in view of Mauze et al. (U.S. 6,202,480) [hereinafter Mauze].

Kaufman as modified by Nimberger discloses all the subject matter claimed above in paragraph 3 with the exception of the thermocouple being micro fine.

With respect to the thermocouple being micro fine: Mauze teaches the use of micro-thermocouple sensors for determining temperature and relative humidity in airstreams. Therefore, it would have been obvious to a person having ordinary skill in

Art Unit: 2859

the art at the time the invention was made to replace the thermocouple disclosed by Kaufman as modified by Nimberger with a micro fine thermocouple in order to determine temperature and relative humidity.

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaufman (U.S. 4,595,300) in view of Nimberger (U.S. 6,352,361) as applied to claims 1-6, 8-18, 22 and 25-30 above, and further in view of Swearingen (U.S. 4,217,463).

Kaufman as modified by Nimberger disclosed all the subject matter claimed above in paragraph 3 with the exception of the thermocouple being silver soldered to the heat conducting structure.

With respect to the thermocouple being silver soldered to the heat conducting structure: Swearingen discloses a thermocouple assembly, as shown in Fig. 1, having thermocouples silver soldered into channels 54 at tip 58 allowing the thermocouples to compensate for any differences in the extent of thermal expansion between a fitting 16 and the thermocouples. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to silver solder the thermocouple disclosed by Kaufman as modified by Nimberger as taught by Swearingen in order to allow the thermocouple to compensate for any differences in the extent of thermal expansion between the heat conducting structure and the thermocouple.

Art Unit: 2859

9. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaufman (U.S. 4,595,300) in view of Nimberger (U.S. 6,352,361) as applied to claims 1-6, 8-18, 22 and 25-30 above, and further in view of Dotan (U.S. 6,250,802).

Kaufman as modified by Nimberger discloses all the subject matter claimed above in paragraph 3 with the exception of a temperature control assembly.

With respect to the temperature control assembly: Dotan discloses a thermometer having a temperature control device 33 disposed adjacent a heat conducting structure to change a temperature of the heat conducting structure. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to add a temperature control device as taught by Dotan to the device disclosed by Kaufman as modified by Nimberger in order to change the temperature of the probe to approximate the temperature of the body to be measure and obtain a more accurate measurement.

Response to Arguments

10. Applicant's arguments, see page 9, lines 6-21, filed August 5, 2004, with respect to the rejection(s) of claim(s) 24 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection has been made as stated above.

Art Unit: 2859

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Madeline Gonzalez whose telephone number is (571) 272-2243. The examiner can normally be reached on Monday-Friday (8:00-5:30), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MG

A handwritten signature in black ink, appearing to read "Diego F.F. Gutierrez", with a stylized flourish at the end.

Diego F.F. Gutierrez
Supervisory Patent Examiner
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CHRISTOPHER W. FULTON
PRIMARY EXAMINER